

OTVARC News

Dec November 1992

From the President's Desk

By Alan Churchill, AA7CV

Yipes, a whole year has gone by already. Last year's Christmas radios aren't even paid for yet! Probably the credit card computer will loose my name and will never bill me anyway so I am looking forward to a really great Christmas this year. Now where should a 200' tower go in my yard???

Next year will bring us a new President. New ideas, a new focus and no doubt new challenges will be brought forward. After a year of serving as your pres, I can attest to one thing... The new officers have a great bunch of people to go to for help and ideas. Time and time again I have been impressed (and, yes, surprised) by the willingness of our club members to step forward and help others. This is a classy bunch of people and I am proud to know you.

Next year will also bring us the best Sea-Pac in our history. We are already planning for it. Many of you took time to fill out the suggestion cards after Sea-Pac was over last summer and those ideas are going into the planning of the 1993 event. Hope all of you will volunteer for some part of the event.

Next year may also bring us an updated trailer or even a mobile van for emergency communications. Our club purchased a 2 M mobile rig and a 70 CM rig for emergency communications so now we cover all bands from 1.8 through 440 MHz.

I could go on and on about what exciting things are around the corner. 1993 will outdo 1992 and 1992 wasn't all that bad.

73, Alan AA7CV

At The Next Meeting:

Our next meeting will be Dec 9 at the Beaverton Elks. If you care to, you may come at 6 PM for dinner and whatever. Many of us do. The meeting will start at 7 PM and promises to be pretty laid back. This is the one Christmas party you won't have to get dressed up for and bring the kids.

There will be some nifty prizes given out for those who wear their name badges so dig yours out. It could be worth as much as \$100.

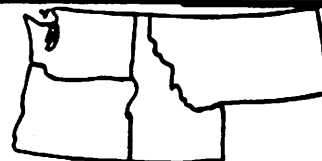
Election results will be announced at the meeting too. For 1993 we will have a new president, vice-president and maybe some new trustees too. Be sure to get your vote in by the 7 PM deadline at the meeting. Ballots will be counted during the meeting.

Inside This Issue:

- One Pound of Thunder
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- Plain English on Voice Radio
- Packet Revisited
- Trading Post
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- OTVARC Contacts
- Membership Renewal Form

NORTHWESTERN DIVISION NEWS AND NOTES

Mary E. Lewis, W7QGP
ARRL Northwestern Division Director



Packet Revisited

At the July ARRL Board meeting we moved to terminate any request for extension of special temporary authority (STA) under which some one-hundred and thirty stations have been operating in a pioneering experiment to develop methods and provide data for unattended high frequency packet forwarding. We moved to request from the FCC permission for semi-automatic forwarding. In this case a control operator must monitor the frequency before initiating transmission. We felt that the STA privilege granted a few, was not in the best interest of amateur radio, the League, or the country. Without STA authority all high frequency autoforwarding is, and always has been, illegal. Obviously some members of the packet community were not happy with this decision.

During the ARRL National Convention held in Los Angeles in late August the Executive Committee met with the Board and we agreed to postpone official action on packet until receiving input from a committee formed by the STAs, and until after the IARU conference to be held in Curacao, Netherlands Antilles. This conference terminated September 4th 1992. The Executive Committee will next meet November 14.

An E-mail message from President Wilson in Curacao summarized the results of that IARU conference. "Among the actions of the conference was the adoption of modified HF band plans for packet and other digital radio modes. The new band plans more closely reflect the actual patterns of activity, and the band plans of Regions 1 and 3, than the ones adopted in Orlando three years ago. In particular, the 20-meter plan has been brought into line by recognizing packet up to 14.112 MHz--a significant achievement by the ARRL delegation, and a great improvement over the post-Orlando situation

Because 40-meter operating patterns in the United States are somewhat different than in the rest of the Region, this band posed the most difficult problem. No agreement could be reached that reflected both the existing pattern of packet activity and the strong desires of other countries for 7.050-7.100 MHz to be kept free of packet and other digital modes in favor of SSB. The band segment favored by the rest of the Region for packet, 7.040-7.050 MHz, is not available in the U.S. because of continuing high levels of CW activity. We made it clear that packet could not be implemented here in the U.S. - that we'd tried to sell the idea after the Orlando conference and it hadn't worked, and that the segment had to remain available for CW. The only other segment for packet for which support in the rest of the Region could be found was 7.100-7.120 MHz, which of course poses a problem for U.S. Novice operators; however, with a general decline in HF B C activity in the band and lagging Novice CW activity, the problem may not be insurmountable.

The planning concept used by Region 2 is for a segment to be designated for 'Digital Modes' (RTTY, AMTOR, packet, PACTOR, CLOVER, etc.) with a sub-segment designated 'packet priority,' which means that packet (which, being an automatic mode, doesn't require much protection itself) would not have to protect other modes from interference in these sub-segments (except for the 40 meter problem noted earlier). Packet forwarding should be limited to the sub-segments specifically designated for packet, but not on an exclusive basis."

Follows a summary of proposed band segment:

80 meters: 3580-3635 kHz, with packet priority at 3620-3635 kHz

40 meters: 7035-7050 kHz, with packet priority at 7040-7050 kHz
7040-7050 kHz for international communication

7100- kHz for packet priority for communications Region 2

30 meters: 10.130-10.150 MHz, with packet priority at 10.140-10.150 MHz

17 meters: 18.100-18.110 MHz, with packet priority at 18.105-18.110 MHz

15 meters: 21.070-21.125 MHz, with packet priority at 21.090-21.125 MHz

12 meters: 24.920-24.930 MHz, with packet priority at 24.925-24.930 MHz

10 meters: 28.070-28.189 MHz, with packet priority at 28.120-28.189 MHz

Soon a committee formed by the initial STA stations will meet with the Digital Committee to offer suggestions and alternatives for HF autoforwarding. It is imperative that your input be received very soon!! Mary, W7QGP

Clubs are authorized to use the material herein in their own newsletters with proper attribution.

Hallicrafters SK

by Steve Jepsen, AI7W

The man who founded the Hallicrafters Company is dead. William J Halligan, W9AC, died July 14, 1992 in Miami Beach, Florida. He was 93 years old and outlived his company by 17 years.

"Hallicrafters — The Radio Man's Radio," said the display sign in local radio stores around the world, and it was true. Hallicrafters receivers especially (and transmitters to a lesser extent) set industry standards for decades. With their big, readable dials and people-sized knobs, these radios were not for the faint of heart, they were for operators.

Bill Halligan, born in 1898, founded his company in 1933, and ran it until he retired in 1975. He was born the year Marconi first sent a signal across the English Channel, his life spanned the history of radio.

He began as a spark experimenter and ended a computer user. Bill Halligan was Hallicrafters, just as Art Collins was Collins Radio, Larry LeKashman and Al Kahn were Electro-Voice, and so on.

Bill Halligan was, according to Max de Henseler, HB9RS, in his 1991 book "The Hallicrafters Story," licensed as 1AEH in 1914.

He served as a shipboard radio operator as a teenager. In an interview with Ted Cohen, N4XX, in the August 1984 issue of CQ Magazine, Halligan remembered when he first got on the air, 1914. "The first operators were younger men who developed a strong feeling of camaraderie. I spent most of my time just talking with local operators."

Asked about the modern (1984-era) Amateur Service, Halligan said "As in the past, there still exists a close bond among

operators, and I find that in general, they still hold each other in high regard."

Halligan joined the U.S. Navy in 1917 and worked as an operator at station NAE on Cape Cod during World War I. After that, he enrolled at Tufts University, but, unable to afford the tuition after a year, he won an appointment to the U.S. Military Academy at West Point.

He left West Point after two years, to get married, and then went to work as a writer for the Boston Telegraph.

In the 1920s, Halligan opened a radio supply house in Boston called "The Radio Shack." While that paid the bills, Halligan said he was spending his spare time designing transmitters — using the new-fangled vacuum tubes — and one of those designs later became the Hallicrafters HT-4, a military mainstay of World War II.

In 1928, Halligan moved to Chicago to form a partnership called Chambers-Halligan, to sell retail radio parts. When this partnership ran aground, Halligan formed his own company, Hallicrafters, on New Year's Eve, 1933, according to de Henseler.

Halligan said in his 1984 interview that his company in the 1930s and '40s concentrated on supplying the military first, and he was especially proud of its role in World War II. Asked if it was profitable to sell to amateurs in those

Please See Hallicrafters, page 5

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OTVARC Club Information

Purpose: The Oregon Tualatin Valley Amateur Radio Club, a non profit corporation, wants to be instrumental in helping the prospective as well as established Amateur to become a proficient communicator in the Amateur Radio Service.

Additionally, the intent is to promote the advancement of Amateur Radio Service through the following five objectives:

- 1.) Education & training of new and licensed amateurs.
- 2.) Public Service during public events & community activities.
- 3.) Emergency Communications during emergencies & disasters.
- 4.) Hobby enhancement through meetings, nets and contests.
- 5.) Social contact with other amateurs & interested persons.

Special Service Club: OTVARC is an ARRL Special Service Club. This means (among other things) that the club benefits from you joining the ARRL through our club. To join or renew the ARRL, contact the treasurer at any regular meeting.

Newsletter: The OTVARC NEWS is published monthly by the Oregon Tualatin Valley Amateur Radio Club, Inc. The opinions, views and recommendations of its contributors are not necessarily those of the Club, it's officers, advertisers or the Editorial Staff. All correspondence relating to the club can be sent to: OTVARC, P.O. Box 5132, Aloha, Oregon, 97006-0132.

Advertising: Classified ads are free to all paid up members. Display ads are available to approved commercial interests. To place an ad, mail your camera ready copy to the address above and indicate the size and length of time desired. All ads must be paid for in advance. Rates for 1992:

Full Page	8" X 10"	\$40/Mo, \$110/Qtr or \$400/Yr.
Half Page	8" X 5"	\$25/Mo, \$70/Qtr or \$250/Yr.
Qtr Page	4" X 5"	\$15/Mo, \$40/Qtr or \$150/Yr.
Bus Card	2" X 3"	\$7/Mo, \$20/Qtr or \$70/Yr.

Meeting: We have three meetings per month - a board meeting (first Wednesday) at which all club business is transacted, a club meeting (second Wednesday) which is mostly social and educational and OTVARC On The Air (third Wednesday) which is a recap of the previous meeting. It is held from 7 - 7:30 PM on 146.90 Mhz.

Membership: OTVARC is open to anyone with an interest in radio or electronics. You do not need to be a licensed radio amateur to join our group.

1. Full, licensed hams, \$10/yr. All privileges.
2. Associate, non hams, \$10/yr. No vote, no elective offices.
3. Family, \$5/yr. Spouses, dependents residing with full member. Same privileges as full members.
4. Life. See treasurer for details.

All memberships expire on the last day of the calendar year. If you join in the 2nd quarter, deduct 25% from the dues above. If you join in the 3rd quarter, deduct 50% from the dues above. If you join in the 4th quarter, deduct 75% from the dues above. In addition to the dues, there is a one time only initiation fee of \$2.00.

How to Join: Simply mail the appropriate dues and your member profile form to the Treasurer, Carl Clawson WS7L at the PO Box above. He will send you put you on the membership list.

Daily Net Listing for Two Meters

by Bill Roth N7RYW

145.27	Daily	5:50 AM	WeatherNet
145.27	Daily	4:24 PM	Weather Net
146.78	Daily	7:30 PM	Dist 4 ARES (Corvallis)
146.84	Daily	7:00 PM	PARC Checkin
147.32	Daily	6:05 PM	Traffic & training net.
147.32	Daily	7:30 PM	District
145.27	Mon.	8:30 PM	YL & Ladies Net
146.84	Mon.	7:00 PM	Portland ARC news.
146.86	Mon.	7:00 PM	ARESnet.
147.00	Mon.	8:00 PM	CCRAServicenet.
145.27	Tue.	6:00 PM	DX Linkup to the East
145.27	Tue.	9:00 PM	ComputerNet
146.90	Tue.	7:00 PM	WA Co. ARES Net
147.24	Tue.	8:00 PM	Swap n Shop
145.19	Wed.	8:00 PM	NW Astronomy Net
145.27	Wed.	8:00 PM	Intertie Checkin
147.28	Wed.	7:30 PM	Hoodview ARCnet.
146.93	rd Wed	7:00 PM	OTVARC On The Air.
145.27	Thur.	7:00 PM	Evergreen Intertie Tech.
145.27	Thur.	9:00 PM	NAPRA Packet Ragchew
145.35	Thur.	7:30 PM	Swapnet & Newslines.
146.64	Thur.	7:15 PM	Yamhill Co. Emer- gency & traffic
146.86	Thur.	7:00 PM	ARESnet.
145.27	Friday	8:00 PM	Youth Net.
145.27	Sat.	9:00 AM	Swap Net
145.27	Sat.	12:00 PM	Nightowls Net
145.27	Sun.	10:00 PM	Astronomy Net

Hallicrafters

from page 3

days, Halligan said "No, not particularly. You had to 'push' and eventually it paid off in sales."

De Henseler lists many technical firsts attributed to Hallicrafters, including those cited in 1964 by the International Amateur Radio Club (4U1ITU) in Geneva:

- Calibrated "S" meter
- Dual diversity receiver
- Automatic noise limiter
- Temperature compensated HF oscillator
- First battery powered SW receiver
- Dual AGC
- Bridge T-notch filter
- First commercially-made electronic keyer.

In 1979, Bill Orr, W6SAI added two more Hallicrafters firsts in an article in Ham Radio magazine:

- The use of silk screened panels
- The use of smooth (instead of) black-crackle paint.

It was also noted that Hallicrafters pioneered the research and application of receiver incremental tuning (RIT), exclusive side band selection, amplified automatic level control, and was the first to use a fully transistorized receiving section — in the 1962 FPM-200.

Bill Halligan and his company will live on for decades in the hearts of thousands of radio amateurs and military operators who have used his radios, as well as in modern communications equipment, of which many of his innovations are an integral part.

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For Sale:

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"When You're in the Market for Excellence"

One Pound of Thunder

by Alan Churchill AA7CV
as related by Roy Lewallen, W7EL

This article describes a great little wire beam antenna. It may be used on field day, as a temporary portable antenna or even as a permanent beam for your home QTH (as it is at AA7CV). A version of this antenna was described in the June 1984 QST by Roy as "The FD Special" so it has served the test of time. This article is an update to that article. You may wish to go back to the QST article but there is no need to. Everything you need to make your own "FD Special" is right here.

The beam was originally developed for use as a field day antenna so there were several requirements.

1. It had to be light and compact. Roy packed in to field day so every pound counted.

2. It had to be cheap. There was the possibility it would have to be left somewhere in the woods.

3. It needed a switchable array pattern. They wanted to cover a good portion of the world without a rotor to carry along.

4. It had to present an acceptable SWR across the whole band. No antenna tuner was brought along.

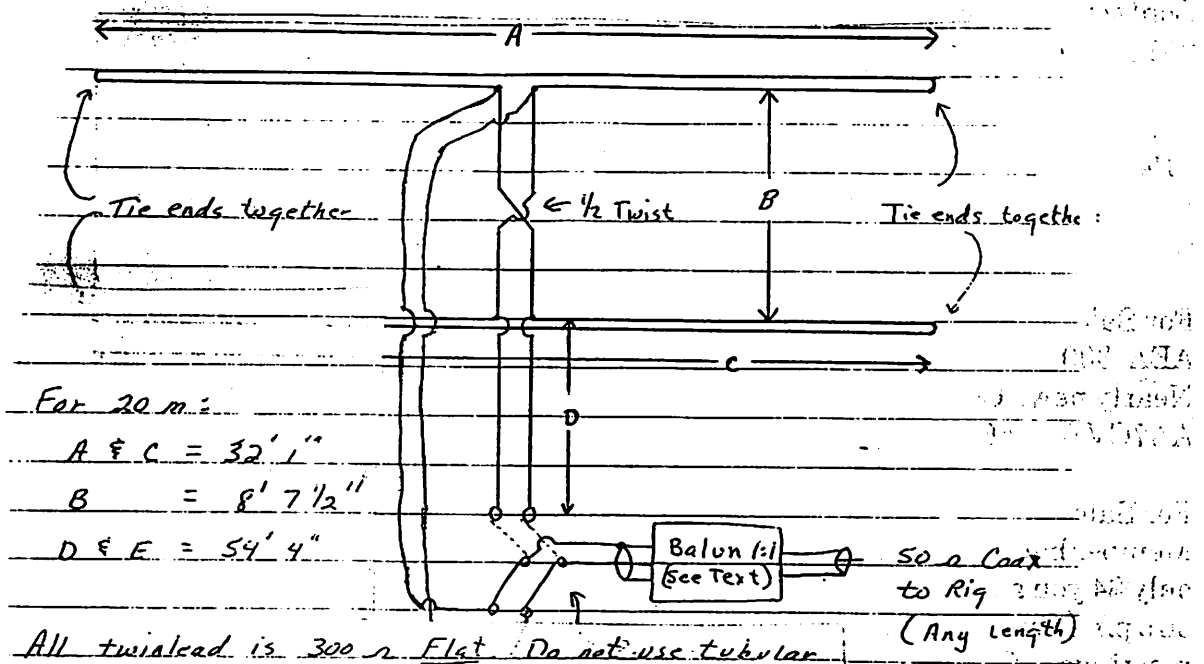
This beam accomplishes all of the above. It weighs only 1 pound including the relay box and can be easily stowed in a backpack.

Total cost for the completed beam is under \$40 using all new parts. If you have a well stocked junkbox, you may be able to build one for nothing.

Since the elements are equal length, you can attach a feedline to each element and reverse the array pattern by feeding one or the other.

The antenna provides a good match over the entire 20 meter band without any impedance matching components.

Please See **One Pound ...**, page 8



One Pound ...

from page 7

Feedline Tricks:

The feedlines are made close to a full electrical wavelength and the unused line is open-circuited (they may be slightly different than a wavelength to help achieve the desired element currents and feedpoint impedance). On 20 meters, the loss in RG58 is high enough that even an exact wavelength open-circuited line presents too low an impedance at the antenna, so 300 ohm twinlead is used for the feedlines in this design.

The Gain & FB Ratio is *Impressive*:

The dimensions shown are for the antenna which has been used at W7EL for the past year and a half. Element currents have been measured and agree remarkably well with the computer prediction. The antenna provides a good match and pattern over the entire 20 meter band. Forward gain is 4.1 to 4.5 dB relative to a dipole at the same height. The front to back ratio is about 18 dB. The beamwidth is quite wide (desirable for a fixed antenna), 70 degrees at 3 dB down. (A dipole gain drops at angles away from broadside too; this beam still has 3.5 dB gain over a dipole at its half-power angle.) The above figures are based on free-space patterns computed with ELNEC (an enhanced MININEC program), using actual measured element currents.

A Balun Is Needed:

The impedance at the input of the 300 ohm line is close to 50 ohms. A current-type balun must be used to prevent current flow on the outside of the coax which connects the 300 ohm line to your rig. If you're running 300 watts output or less, a

very effective balun can be made by winding about 10 turns of small (RG174) coax through an FT-82-72 or FT-114-72 ferrite core. You may also use the "handbook standard" current balun by winding some coax into a coil close to the relay (where you connect to the 300 ohm twinlead). Wind the coax into a flat coil like a coil of rope and tape it together. If your feedline is RG58, make 8 turns from 8 feet of coax. If your feedline is RG8 or RG 313, wind 10 feet into 4 turns. Since the antenna is well balanced, a commercial (voltage-type) balun might be satisfactory. Do NOT use a 4:1 balun. Use a 1:1 balun. If your antenna is lower than 54 feet and you have excess twinlead, don't coil it up or leave more than a couple of feet laying on the ground. Get it up in the air and keep the two feedlines separated by at least 12".

On The Air Experience:

Versions of this antenna have been designed and built for 15 and 40 meters and work as predicted. One 40 meter FD Special was used for 1988 Field Day, put up 90 feet by means of a slingshot. Not too many Field Day stations had a 2 element beam up 90 feet on 40 meters, and we really had fun with 5 watts output! Contact Roy if you're interested in using this antenna on a band other than 20 meters. Let us know how your "FD Special" works out.

Roy Lewallen, W7EL
5470 SW 152nd Ave.
Beaverton, OR 97007

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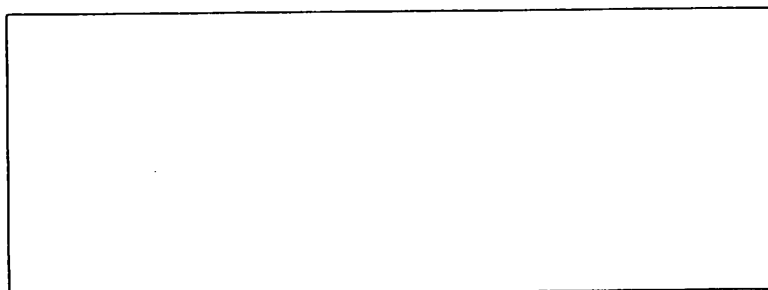


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